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THOS B STANLEY
GOVERNOR

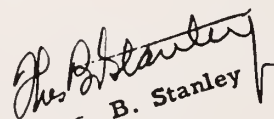
NATIONAL WILDLIFE WEEK
March 20-26, 1955

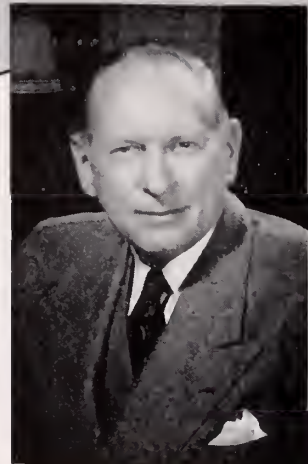
The careful and wise use of our earth's natural wealth - soil, waters, plant life, animals, and minerals - is the concern of every man, woman, and child in the Commonwealth. No longer can we look upon conservation as an idea promoted only by certain individuals or groups. Natural resources in their abundance are enjoyed by all; so all must share in the responsibility for their intelligent use.

Once a year, in March, special attention is focused on one aspect of conservation, namely wildlife, but in doing so the totality of conservation is wisely and rightfully brought to the forefront.

The theme of the National Wildlife Week this year, March 20-26, is "Wetlands Preservation". Water is one of man's - and wildlife's - most important resources and one which has far-reaching effects upon our American way of life.

In keeping with this observance, I invite all our citizens to acquaint themselves with the facts pertaining to natural resources problems, and in keeping with the national theme to give particular thought and attention to the importance of safeguarding our natural resources and particularly to the preservation of wetland resources, including the marshes, sloughs, lakes and stream courses of the Commonwealth, and the wildlife and recreational opportunities produced and afforded by such areas.


Thos. B. Stanley
Governor



Virginia WILDLIFE

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A Monthly Magazine Dedicated to the Conservation, Restoration, and Wise Use of Virginia's Wildlife and
Related Natural Resources, and to the Betterment of Hunting and Fishing in Virginia

COMMONWEALTH OF VIRGINIA



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Commission of Game and Inland Fisheries

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Cover

Commission photo by Kesteloo

The golden eagle is now rare east of the Rocky Mountains. However this beautiful specimen came from Giles County, Virginia. This bird is a mighty hunter and lacks almost entirely the scavenger habits of its relative the bald eagle.

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When the Honkers Depart

THE SPRING SEASON is said to advance across continental America at the average rate of fifteen miles a day. The movement of the spring awakening varies at different points in the United States, but from the calendar, spring officially begins on March 21 when the sun reaches the celestial equator—the vernal equinox of the astronomers of old—and begins its northward journey. From this point on, our days grow longer and nights shorter only to halt again on June 21 when the trend is reversed.

Spring days come early in the south. Like great tides, the warming sun's rays come, ebbing and flowing, ascending and descending, each morning warmer, each day causing greener grass, each night a little less cold because of the longer warm days. And among the wild things the exemplary Canada goose is first to yield to the inner urgings of the spring season. It is one of the earliest of our water birds to succumb to the migratory impulse.

Why do the geese migrate? Why do birds in general migrate? It is an ageless question and we may never know a full answer.

One theory is that birds, like men, are creatures of habit. They're only doing what age-old instinct has taught them since the Ice Age. When certain migrant birds take off southward—and again, northward in the spring—they're making a return to their ancestral home lands in behavior patterns established millions of years ago when the glaciers were receding.

But what about nonmigrants, like the chickadee? Why doesn't it migrate when some others do? One explanation is that the chickadee is a bird of the Old World and being such, it lacks the migratory pull so characteristic of birds originating in the Northern Hemisphere.

Of course there is more to migration than just behavior patterns. There is the matter of sunlight, geography, the earth's magnetic currents, a complex sexual awakening within the bird itself, and a host of "probablys" and "perhaps," not to mention the simple "we just don't know."

But why worry over the physiological processes that cause birds to migrate? Is it not enough that they do and in their doing bring us a sense of bewilderment and amazement? Must we know all the answers to nature's hidden secrets to enjoy them? What is puzzling to me is not the stealing away of the birds themselves, but that so few people give this phenomenon a second thought.

Not so long ago I talked to a man of many seasons, a well informed man along his professional lines, who said he never thought much about birds migrating—in fact, he never even realized that there were such things as *winter* birds and *summer* birds. I sometimes wonder about education—the modern version that is—and if we aren't trading awareness and observation and sensitivity for things of lesser worth? The person who has never seen or heard Canadas overhead as twice each dynamic year they proclaim the coming and the going of the seasons, is surely missing some goodness in life. And in like manner, the migrating goose that trades his awareness for something less important is soon out of circulation, a mass of perforated feathers and stinging birdshot or possibly a lifeless carcass in the den of some unsuspected carnivore.

Every month has its blessings and unruly March has its just share. Slayer of the winter they call him; harbinger of spring. Call him not names, *though thy winds are loud and bleak, thou art a welcome month to me. For thou, to northern lands, again the glad and glorious sun dost bring, and thou hast joined the gentle train and wear'st the gentle name of Spring.*

No, a March dawn is only as bleak as he who squints through a steambound window to check the outside thermometer without seeing the hurried flight of disappearing snowbirds in the glen. A March day is only as damp and soggy as one who walks the muddy path intent only in keeping his feet dry, missing the awakening miracle of spring around him. And a March night is only as lifeless as he who gropes around in the dark without a bending ear to the overhead clarion cry of northbound fleeing Canada geese.—J. J. S.



Pure, clean, unpolluted water is a basic necessity for all forms of life, both plant and animal.

WHAT IS WATERSHED CONSERVATION?

By D. A. WILLIAMS

Administrator, Soil Conservation Service

U. S. Department of Agriculture, Washington, D. C.

U. S. Forest Service photos

WHAT IS a watershed? The term largely defines itself: it is all the area that sheds water into a given stream, lake, pond, or other catchment. The greater part of most watersheds is made up of farm, grazing, or forest lands, although some may contain wild lands or badlands. Most watersheds also include towns or cities; and usually they include considerable areas devoted to roads, highways, railroads, factories, mines, and other man-made structures. And the stream, lake, or pond that serves as the catchment must be considered a part of each watershed.

Furthermore, the plant life that grows on the land forms an integral part of a watershed—the trees, grass, cultivated crops, and all other plants. And the animals that live from the plants and water—the domestic livestock, the wildlife, fish, and other animal life—constitute an important part of most watersheds.

Finally, we should bear in mind that the people who live there and use and manage all these resources are also a part of each watershed—and, by far, the most important part. After all, it is for *people* that we plan and execute a watershed conservation program.

*Paper delivered before the Nineteenth North American Wildlife Conference, Chicago, Illinois, March 8-10, 1954, sponsored by the Wildlife Management Institute, Washington, D. C. Condensed here.—Ed.

What is Conservation?

What is conservation? True conservation of natural resources does not mean hoarding them. It means wise use in such a way that the greatest immediate production or benefits will be derived without depleting the basic resources themselves.

Watershed Conservation is Comprehensive

If we accept these definitions of “watershed” and “conservation” then true “watershed conservation” becomes a rather comprehensive undertaking. It involves the conservation, management, and use of all soil and water and all the things that depend on them—trees, shrubs, grass crops, wildlife, fish, cultivated crops, livestock, and so on. And it includes proper construction and maintenance of roads, highways, railroads, culverts, bridges, dams, and levees. Also it includes adequate protection and proper management of cities and towns and their water supplies, sewage systems, and recreational facilities. And in many instances it includes the protection and management of factories, mines, oil wells, and other industrial plants to assure adequate water supplies and a proper disposal of wastes.

Interdependence of Watershed Resources

The way in which any one of these resources or developments is used or managed usually affects several of the others. For example, poor construction or maintenance of a road or highway may start gullying that seriously damages the crops and land of nearby farms and helps fill streams with mud that suffocates fish and contributes to floods downstream. The improper disposal of city sewage or factory waste may not only destroy much of the water life of a stream but threaten the health and recreation facilities of people downstream. Poor farming methods may lead to erosion that affects the entire economic life of a community and heightens flood crests. The improper cutting or burning of a forest may deplete or destroy the wildlife that resided there and lead to heavy siltation and floods on the streams below.

It all adds up to this: a true watershed conservation program must take into account each patch of land and the plants and animals that live on it, each rivulet, pond or stream, each man-made structure, and every activity of the entire area.

Full Conservation Requires 100 Percent Participation

If we accept this concept of "watershed conservation" it becomes obvious that a full watershed conservation program can be carried out only if all the people who live, work, or own property there participate in the program.

Our Small-Watershed Pilot Program

As you doubtless know, the last session of Congress appropriated 5 million dollars to start a new program in

small upstream watersheds. In making the appropriation, Congress directed the Department of Agriculture to designate areas to serve as "pilot" watersheds in a cooperative program. The main purposes were to demonstrate two things: (1) the physical and economic benefits of soil and water conservation and upstream flood prevention, and (2) ways and means of providing more effective local-state-federal cooperation in planning and carrying out watershed programs.

The Soil Conservation Service was given primary responsibility by the Department for carrying out this program.

Local Participation Essential for Success

I wish to emphasize that we consider local initiative and sponsorship of fundamental importance. And we think it essential that local people and organizations share part of the costs of these programs. These are not federal works programs, in which the Federal Government does all the planning and bears all costs. They are cooperative undertakings.

Our previous experience in land and water conservation work convinces us that the effectiveness of watershed treatment is in almost exact proportion to the interest and activity of local people and organizations.

Cooperative Work Plans

The sponsoring agencies invited other local and state agencies to help in planning the programs. County officials, including the county agent, were invited to participate. Cities, towns, sportsmen's clubs, chambers of commerce, vocational agriculture instructors, industrial organizations, drainage districts, irrigation districts, state



This is an experimental drainage area made by the U. S. Forest Service for their water yield studies.



Pure clear streams like this are the result of proper watershed management and protection.



Clean waters like this mountain stream are the arterial life blood of our land.

extension service, state conservation departments, state highway departments, and many other types of organizations are cooperating in these projects. And, of course, the local soil conservation districts are always active participants.

The SCS expects to coordinate its efforts with those of other federal agencies, such as the Corps of Engineers, Bureau of Reclamation, Bureau of Land Management, and Fish and Wildlife Service, where their interests are in any way involved. Agreements have been made with the Geological Survey and Weather Bureau for assistance in evaluating the effectiveness of the programs.

We are trying to make these pilot watersheds truly cooperative enterprises between all local, state, and federal interests concerned.

Wildlife Conservation Considered

I wish to point out, to you who are primarily concerned about wildlife, that these pilot watersheds offer excellent opportunities for local wildlife organizations to participate in planning and carrying out measures that will promote more and better wildlife.

If you live in or near one of these watersheds and have some constructive ideas about how to better integrate wildlife conservation with soil conservation and flood prevention, you should offer your advice and services to the local sponsoring agency. In this way, you can help plan and carry out these watershed conservation programs. You can help in seeing to it that adequate provisions are made for conserving and improving beneficial wildlife.

In a few instances there have appeared to be conflicts between wildlife and farming interests, especially where land drainage was involved. You will find that SCS tech-

nicians always consider wildlife aspects before recommending the drainage of farm lands. They are anxious to confer with any interested wildlife organization in helping plan these watersheds, or any other projects.

And, may I suggest that it is not enough for wildlife conservationists merely to oppose drainage projects that appear to them to be unsound or untimely. A more positive approach is needed. First they should gain a thorough understanding of the facts, the objectives and the expected results in each particular area. Then, constructive suggestions or alternative proposals can usually be made that will get better results than uniformed opposition.

Can not some way be found whereby the large number of enthusiastic wildlife conservationists can join hands with farmers to accomplish more real conservation for both land and wildlife?

Land Treatment is Fundamental

Plans for the small watersheds in the new program place primary emphasis on land treatment. They call for full conservation treatment of all farm, grazing, forest, and other lands, including lands devoted primarily to wildlife.

It is not necessary for me to go into details of land treatment. I am sure that Mr. Kirk Fox will adequately cover this subject when he discusses "The Place of Soil Conservation in Watershed Management." But I do wish to stress that land treatment is absolutely essential for effective watershed conservation. We believe this so firmly that SCS does not think it wise in most cases to undertake other works of improvement on a watershed until we are assured that most of the land will receive adequate conservation treatment. Nevertheless, we know

that other things are necessary to get true watershed conservation.

Water Retarding and Control Structures

Since flood prevention was designed by Congress as one of the major objectives of these pilot watershed projects, the plans have provided for as much protection against flood and sediment damage as seemed feasible. We recognize that land treatment, alone, will not prevent floods and flood damage during periods of heavy and persistent rainfall. It must be supplemented by, or combined with, waterflow, retarding structures, channel improvements, and other water-management structures.

The water-management structures may be small dams to detain flood water temporarily; or they may be sediment traps, gully stabilization structures, large diversions, stream channel improvements, drop inlets, and other types of water control devices. Each structure is designed to do the specific job at hand, and all structures are fitted into the land treatment measures and the over-all watershed program. This, in brief, is the type of program that is being developed for each of these small watersheds.

Cost-Sharing in Execution of Program

This program is carried out somewhat as follows on most watersheds: the individual farmers, ranchers, and landowners do the normally needed soil conservation work on their lands, with technical aid from SCS technicians.

Where water-control structures that will affect more than one farm are needed, the federal government will usually bear 50 percent or more of the cost of construction. Local organizations or people will be expected to furnish all easements and rights-of-way and assume responsibility for maintenance of the structures. Other problems are to be met in a similar cooperative manner on a cost-sharing basis.

A condition to providing federal assistance in this pilot watershed program is that the benefits must exceed the costs.

Progress on Works of Improvement

Immediately after designation of each watershed we sent additional technicians to help speed up application of conservation practices to the land.

In the meantime, our engineers were completing designs for many of the water-retarding structures and stream-channel improvements where obviously needed. Contracts are now being let to private contractors for construction of these works of improvement.

Because of necessary delays for drawing up plans and designs, construction work will not get underway on a large scale until this spring. It can then move ahead as rapidly as available funds permit.

Some Limitations of the Pilot Watershed Program

At this time I should like to point out that we do not think that these small watershed projects will give us all the answers to our watershed problems. This is true for two reasons: (1) both the authority given SCS and the objectives defined by Congress were limited, and (2)

these are small watersheds that do not deal with downstream problems on major rivers.

The primary objectives set forth were: to conserve soil and water, and to alleviate upstream damages from floods and siltation. No authority was granted SCS to construct large multi-purpose dams, control stream pollution, develop recreational facilities, etc. Furthermore, we do not deem it feasible to try to eliminate all upstream floods.

On most creeks more than 90 percent of the damage comes from floods that occur frequently—from small floods that occur one or more times each year to larger floods that occur once every 10 to 25 years. Less than 10 percent of the damage comes from the spectacular floods that occur only once every 50 to 100 years. Structures designed to prevent damage from floods of 10 to 25 years' frequency can be built smaller and at much less cost than those designed to prevent any damage from the super-floods. And the structures that will safely handle the 10 to 25 year frequency floods will eliminate much of the damage from the super-floods.

Downstream Watershed Conservation Measures

I think most of us are agreed that watershed conservation should start at the headwaters, except where special, urgent downstream problems are involved. But I am sure we all know that watershed conservation should not stop at the headwaters. It should continue downstream until the water reaches the sea. Downstream measures are essential on most major rivers for flood protection, navigation, hydro-electric power, water storage, anti-pollution, and other purposes.

In our upstream work, the SCS tries to develop a program that will fit in with any downstream work done by other agencies or groups. As I stated, we always consult with the Corps of Engineers, the Bureau of Reclamation, or any other interests, public or private, that contemplate the construction of large dams below the small watersheds on which we work.

The Need for Watershed Research

Before concluding, I should like to say a few words about our need for research on watershed problems.

Of course, the need for research to find better ways of doing things will never end. But in addition to the normal research on agricultural, hydrological, sedimentation, and biological problems, I think we urgently need more study on the relationships between upstream treatment of small watersheds and downstream treatment of major rivers.

Other Phases of Watershed Conservation

You will note that I have not attempted to discuss details of any phase of watershed conservation except the upstream flood prevention aspect. These other aspects, some of which I pointed out early in my talk, are extremely important in a complete watershed program. I have refrained from putting more emphasis on them knowing that they will be discussed by those who follow me on this program.

Again, I say that I am pleased to have had this opportunity to be with you here in this great meeting.

Wildlife Pictorial Section

Commission photos by L. G. Kesteloo



AMERICAN ROYAL TERN CHICK AND EGG

Sixty years ago this bird was a common breeder on the Virginia coast. Later it disappeared. Today, after strong protection by the federal government and the state, it is staging a comeback.



GRAY SQUIRRELS IN FROLICKING MOOD

The squirrel is Virginia's most popular small game animal. Two species are hunted—the widely distributed gray squirrel and the larger more robust fox squirrel, largely restricted to the mountains.

LARVA OF THE SPHINX MOTH

A common feeder on tomato and tobacco leaves.



TREE FROG

This tailless amphibian is highly specialized in coloration and in the ability to cling to leaves with suction-like broadened toes. It has a shrill "pe-teet" call in the spring.

WHITE-TAILED DEER

This sprinting doe was caught racing across a field at night at Hog Island by a flash gun camera. Deer are steadily increasing in Virginia. Last season's kill was 13,971.





CANADA GEESE AT LAFFERTY'S

Silhouetted against the morning sky a flock of Canadas comes to light on the farm of Edgar R. Lafferty, Jr. in King William County.



SOUTHERN PERIWINKLE

The Littorina snail in the salt water marshes is a favorite food of the clapper rail, other water birds, and marine fish.

NUMBER ONE FURBEARER

The muskrat continues to lead the fur-bearer list as Virginia's, and the nation's, top fur-producing mammal.





LITTLE GREEN HERON

A common summer resident throughout the state. Virginia has six herons, three species of egrets, and two bitterns. All are water birds of the wading variety.



CHUCK-WILL'S-WIDOW

A fairly common resident throughout the state. It is a nocturnal bird, sometimes referred to as an animated insect trap because of its habit of capturing large quantities of night-flying winged insects.

WOODLAND ENGINEER

The beaver is North America's largest rodent. At one time extinct in Virginia, it is now making a speedy comeback. There are 284 colonies now known to exist in the state.



RED FOX PUP

An alert Reynard prepares to pounce on a wood-mouse. Foxes are common throughout the state, the red preferring fields, meadows and woods borders, while its gray cousin favors the wilder regions. Both are classed as game animals in Virginia.



LIVING FOSSIL

The opossum is the most primitive mammal occurring in Virginia. It is the only North American mammal with a marsupial pouch, a special organ to which the young are transferred a few days after conception, and where they remain during their early stage of development.

A Suggested Solution to

THE DEER SEASON PROBLEM

—West of the Blue Ridge

By STUART P. DAVEY

THOSE closely connected with the management of a game species often become so engrossed in their work that they lose sight of the main objective: *to give sustained maximum recreation to the sporting public commensurate with the game populations and their welfare.*

Seasons, bag limits, and protection are still major game management tools. We must be aware, however, that no one die can be cast, used year after year, and still fit the needs of a living and constantly changing resource like a game population. Many persons think that we are presently faced with such a situation regarding some of the game regulations which apply west of the Blue Ridge. They may or may not be right, but the proponents of change are becoming increasingly numerous, more vocal and more positive in their beliefs. A presentation of these arguments and a possible solution to the problem seems definitely in order.

To review the situation. What did the area west of our Blue Ridge offer to sportsmen 15 years ago? It offered only a few bear, a few turkey and even fewer deer. Hunting was pretty much just what the word says except for those who delighted in the taking of squirrel, rabbit, or grouse. The quail were much as they are today it seems, huntable in some counties, rare in others.

What is the situation today? Big game hunting now holds a high place in the hearts of thousands of sportsmen, both young and old. The bear is becoming an increasingly valued trophy. The deer were given a chance to come back and they have responded very well indeed. In brief, increased interest in big game hunting has entirely changed the picture in recent years.

Under today's regulations, except for the early squirrel seasons, everyone takes off for the woods the same day—the opening of the general hunting season. As the small game enthusiast complains, "the woods are full of deer hunters," and literally they are.

So what? It means, say these local people, that to get any decent grouse or turkey shooting you have to wait until at least the fourth Monday in November—after

the deer season is over; this made it the 22nd in 1954 and will make it the 28th in 1955. Not only has Mother Nature already reduced these small game populations by this late in the year, but the "snow law" is often encountered—giving rise to more hair-pulling.

"Why should this be?" they ask. The stock answer for opening the hunting of all species on the same date is that you can't let one group hunt before another because the first group will shoot everything else. The facts, however, don't support this claim. We have early squirrel, dove and archery seasons without any great detriment. Also, have you ever wondered why other states can get away with early small game seasons? Further, many of these states rate tops as game areas.

Most people realize that there are two other factors influencing this supposed predicament; one being the outside opening dates for the different species' seasons as set by legislative act and the other being that faction of the hunting public which wants uniform opening dates statewide. To the first it can be said that legislative acts can be changed and should be for such species as the ruffed grouse (now illegal to open prior to Novem-



An opening day traffic jam in good deer country west of the Blue Ridge Mountains.

*A contribution from Virginia's Pittman-Robertson Project No. W-40-R.



A big game checking station where important facts are gathered to aid in intelligent game management.

ber 15). Grouse should be hunted by late October or early November at the latest. To the second it can be said that many a sportsman is at a loss to see why the difference between opening dates east and west of the Blue Ridge is so slight—from five days to actually none, depending upon the year. From the viewpoint of many, the western sections of the state need earlier small game seasons, free from big game hunters.

Another phase of the argument for uniform opening dates has to do with the influx of "foreign" hunters; "foreign" including anyone from another county. This, however, seems to be exaggerated. Some of the counties with low human populations are naturally drawing hunters out of adjoining counties because they are often the best game areas. Bath County is a good example of this, but here the situation was brought about at least partly because it was once the only deer hunting area available around. Hundreds of hunters that used to go to Bath can now get better deer hunting in their own back yards and are doing so. Ask your game warden what group kills the great majority of game in your county. You will find it is the county residents in nine out of ten cases. Actually, these extra hunters are needed during deer season and with the setting of better small game seasons, this "foreign" hunter complaint should diminish.

Now, is there a solution to this whole business? Yes, at least one, and it has to do with the setting of the deer regulations. The idea is to open the season west of the Blue Ridge on all game except deer on the third Monday in November, and to open the deer season on the fourth Monday.

The third Monday in November, when the deer season has been opening for the past several years, is too early to hunt deer west of the Blue Ridge. Not only have we been periodically running smack into fire seasons, shirt-sleeve weather and excessive meat spoilage, but it should be later for the benefit of the small game hunter, the deer and the deer hunter in the long run. It is generally accepted by modern game managers that the best deer hunting occurs during the peak of the rut



A game biologist collects information that will result in healthier deer herds.

or breeding season. All deer are very active during this period and are thus more available to the hunter.

And when is this peak? From studies conducted by the Commisison last fall and winter with doe deer reproductive tracts and the aging of fetuses in pregnant does, it was found that breeding extended from November 2 to December 23 in this sample. Of major importance, however, was the fact that 50 percent of the does were bred in the 15-day period November 20-December 4 and that over 66 percent were bred after November 20; the midpoint being November 26-27. The results were the same for all sections of the state.

Tie this in with the latest season possible under the present third Monday arrangement (November 21-26) and you find that 50 percent of the doe deer still breed *after that closing date!*

With the present short six-day season then, wouldn't it be much better to hit closer to the peak breeding period? This would be done by opening deer season on the fourth Monday in November. A six-day season this week would find twice as many does breeding than the week earlier.

Perhaps the greatest benefit of all would be that enjoyed by the health and quality of the deer herds. More bucks, and more *old* bucks, would be available for the majority of the breeding. As it was this past season, the adult buck to adult doe ratio dropped from about 1 to 2 to about 1 to 4 or 5, *before two-thirds of the does were ready to breed*. It must also be remembered that with our present hunting pressures, the average buck lives less than 1½ years; and this in relation to the above means that for every old buck (above 1½ years) there will be as many as 10-12 breedable does under the present early season. This ratio can be halved with a later season.

Some of our counties have reached a situation where as high as 70 percent of the fall bucks are yearlings (1½) and these same bucks have up to 80 percent *poor* spikes. It is *not* good deer management to leave the breeding up to these undersirable animals.

(Continued on page 21)



This farm pond was made possible by using the road bed of a state highway as the dam.

Farm Ponds Along State Highways

By H. J. NEALE
State Highway Department

(Photos by Virginia Department of Highways)

THE Virginia Department of Highways has adopted a new policy for the locating of farm ponds along state highway rights of way in a cooperative assistance program with the Soil Conservation Service. It is a unique understanding in Virginia, and one that should do much for conservation, recreation, and inter-agency cooperation.

Specifications for the construction of farm ponds were first outlined by the Highway Department back in 1946, but a full-fledged policy for the locating of the waters was not established until recently. On October 4, 1954, a definite agreement was reached on how farm ponds along right of ways should be built.

When a suitable farm pond site is located along the fill of a state right of way, the Soil Conservation District Board of Supervisors advises the highway district engineer who is their official agent that acts for them on such matters. In turn, the district engineer notifies this man of any impending construction projects within the area, usually when he receives plans for field inspection. The

agent then notifies all landowners along the proposed highway or project who may be interested in establishing a farm pond.

The official agent of the Soil Conservation District submits the names of all property owners interested in ponds to the resident engineer, who in turn notifies him whether a permit is required or what necessary arrangements should be made in right of way negotiations.

The landowner or petitioner, with the help of the Soil Conservation Service, determines the feasibility of the proposed pond and supplies the Highway Department with the necessary details: the area of watershed, size of proposed pond surface, elevation of water, purpose of pond and other technical data. When this information is received by the Highway Department, proper action is then taken on the feasibility of establishing the pond against the highway fill or on the right of way proper. Approval or disapproval is made by the resident or district engineer and is usually made to the Soil Conservation District Board of Supervisors or their agent. If

approved, the Department of Highways will design the required embankment and structures and furnish a cost estimate. The owner will also be given information as to his own responsibility as to the landscape maintenance and other needs around the pond, and will also be advised of any possible future revision in the highway and its effect on the pond.

Specifications

In general, the basin area drained by the streams contributing to the pond must be mapped out to determine the area. This can be done through the use of topography maps which indicate the drainage zone.

All drainage structures conducting the water from the ponds through the highway fills must be adequate enough to carry the maximum discharge from any flood originating in the drainage basin. This is obvious for the reason that the highway cannot be flooded during periods of heavy rain. The structures shall be so designed and constructed that the maximum high water from any flood shall not be any higher than three feet below the crown of the highway at its lowest point adjacent to the pond or its basin. No movable gates or valves are permitted.

All roadway fills, or highway embankments which serve as dams to impound water in the farm ponds, must be critically examined to determine their suitability for this purpose. If doubtful, permits are not granted unless or until the fills are strengthened or stabilized to the satisfaction of the Highway Department. This must be done at the sole expense of the landowner or the petitioner.

Landscaping around the pond site is an important consideration. All of the area to be impounded within sight distance of the highway shall be cleaned of all trees and brush, and the shoreline must be left in a neat and presentable condition.

Engineering measurements, calculations, design, and construction are done by or under the supervision of the engineers of the Highway Department. Their decisions are final. The cost of all work incident to the construction of farm ponds must be borne solely by the landowner or petitioner, less the amount which the Highway



Farm ponds increase the value of land and make fine recreational areas.

Department would have had to spend for a drainage structure if the spillway had not been built. Finally the cost of the work contemplated will be estimated by the engineer of the Department of Highways, and the petitioner shall furnish a bond to cover the estimate before work is actually started. Any balance of this amount not expended by the Department will be reimbursed to the landowner or petitioner.

DEER PROBLEM (Continued from page 19)

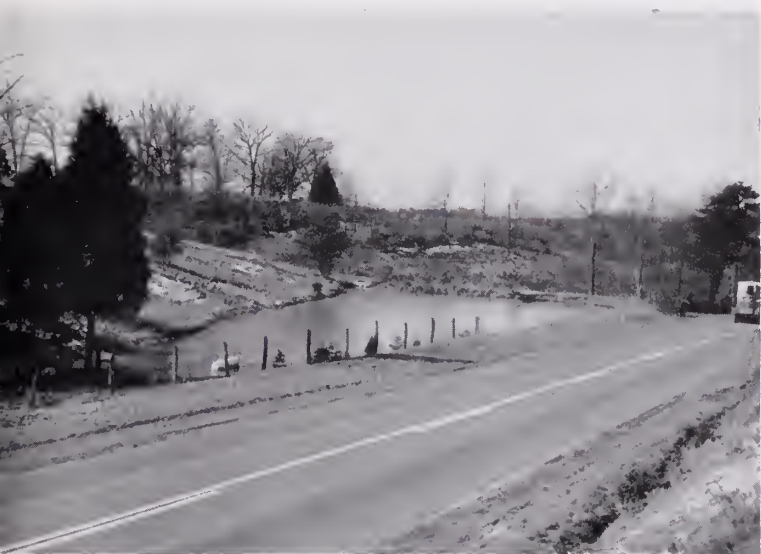
Another very important reason for a later deer season is that we have reached the stage in many counties where antlerless deer harvesting should be a part of each season. To handle intelligently this kind of harvesting calls for a season late enough to permit the completion of lactation of a majority of the older doe deer. It will also mean that better developed fawns will be harvested.

If this change can be accomplished, the "feather man" west of the Blue Ridge can get in some decent grouse, turkey and quail shooting, the bear hunter can run his dogs earlier in November, and better hunting weather for each sport will be encountered. The deer will still be available for that army of enthusiasts and about the only restriction necessary during deer season would be to (as it is now) make illegal the running of bear, bobcat and fox with dogs. Deer would be more available, their breeding would be well underway and less meat would be lost due to those "blue-bird" days that bring fire danger too. The great influx of hunters would come *after* the opening of small game season. And let's not forget, these hunters are really needed for the deer season.

No season is going to please 100 percent of the sportsmen. However, is it not better to please a majority with something as outlined, rather than please only a minority as is the case under the present regulations?

The great majority of sportsmen west of the Blue Ridge seem to be in favor of three changes in the regulations: a uniform opening date for deer statewide, an earlier small game season, and a separated deer season.

A change that is biologically sound should be made.



Landscaping around the pond site is an important consideration.

IZAACK WALTON Archetype of Anglers

By DOROTHY TROUBETZKOY



Old woodcut of Walton's stream, the Dove.

WHAT genius in a sport book keeps it up to date for three centuries and what qualities in the author make his name the epitome and symbol of that sport?

Of course any book which, like *The Compleat Angler*, becomes a classic in its field, is often fated to be better known in the end for quotations than for the body of its material, since to later writers and speakers come so handily such remarks as Walton's "Oh Sir, doubt not but that angling is an art! Is it not an art to deceive a trout with an artificial fly—a trout that is more sharp-sighted than any hawk and more watchful and timorous than your high-mettled falcon is bold?"

Most anglers accept the verdict that Walton wrote a great book, but less make the pleasant proof of reading it. Shying away from its archaisms and suspecting perhaps that what was valid for fishing in the streams of island England three centuries ago cannot possibly apply to continental America today, many still are due the delicious surprise which comes to those like me who encounter the book as required reading in college and find themselves enjoying what they expected to be a chore.

Seldom are writers and their subjects so in harmony. The candid and ingenuous approach which gives the book perennial appeal and conveys so expertly both the exhilaration and relaxation of fishing on the *Dove* which has become the epitome of all the clear running trout streams where any fisherman has wet a line—these qualities of directness and simplicity were suspected by their author as a lack of literary excellence. When the book had become an undoubted success during his lifetime, he said with honest surprise: "When I consider my education and mean abilities, I am amazed to find myself thus publickly in print."

The first edition of *The Compleat Angler* was published in May 1653, when its author was 59 years old, and the most recent one was issued 300 years later. This tricentennial edition, including the supplement by Charles Cotton, Walton's young fishing companion, was revised by naturalist Eugene Burns and sponsored by

the Izaak Walton League. It was published by the Stackpole Company of Harrisburg, Pennsylvania.

On first thought the revision might sound like heresy, but when one realizes that Walton put out five editions during his lifetime and revised each one of them, it seems as though Walton himself would have been the first to suggest that the book be pruned and trimmed for the 20th century angler. It is not hard to believe that he who removed and added and altered material which he had "gathered, both by my own observation and the communication of my friends" would be delighted to have the collaboration of a trained naturalist in this historic edition.

Everyone can identify this "prince of anglers," but relatively little is known of his life. He was a contemporary of Shakespeare, Bacon, Milton and Cromwell, but the function of his book was the removal of man from the political, spiritual and social turbulence in which their works were rooted. To an exceptional degree, the man and his book are a kind of entity which is inseparable.

The scarce facts recorded of Izaak Walton's life give ample motives for his search for serenity along the streams he fished for salmon or grayling or the "enamelled trout." A royalist, he lived through the years of civil war when his king was defeated, tried and beheaded. His church was divided. Repercussions of turmoil wreaked personal havoc among family and friends. His own life was a long calendar of tragedy.

Izaak was born on August 9, 1593—when Kit Marlowe and Will Shakespeare were each 30 years old and Ben Jonson was 20. Izaak, the son of Jervis Walton, was baptized in the parish of St. Mary Stafford, near London. Nothing is known of his mother and his father died when he was only two and a half years old. Whether he became an ironmonger or haberdasher by trade is a detail still in dispute, but the first record of him, dated November 12, 1618, described the young man as "a late apprentice to Thomas Grinnell" and referred to him as a member of the Ironmonger's Company.

The marriage license of "Isaack Walton" and Rachel

Floud was dated December 27, 1626, and they went to live on Chancery Lane, off Fleet Street. One of his first wife's ancestors was the martyr, Thomas Cranmer, reformer and Archbishop of Canterbury.

The marriage lasted 14 years until the death of Rachel in childbirth. Of the six boys and one girl who were born of this marriage, all died in infancy or early childhood.

Six years later, Walton, then 53, married Anne Ken, 35, a close relative of Bishop Thomas Ken who wrote the familiar *Morning and Evening Hymn*, "Praise God, from whom all blessings flow . . ." Two children of this marriage, Anne and Isaac, survived, so that rather late in life Walton finally had a boy of his own to take fishing. His second wife, too, died while the children were still young, the girl, 14, and the boy, 10.

It would be pleasant to think of Izaak Walton himself fishing as a boy, but actually he was close to forty when he began, after the death of his first child and quite probably in search of that healing solitude which so many before and since have found in the quiet sport of angling. Certainly it gave him added emotional resilience to withstand far more than a normal share of sorrow and brought many good companions during his long life. At 82 he was still fishing with younger friends along his favorite stream, the *Dove*, and he lived to be over 90, with his faculties unimpaired.

In earlier years he had written successful biographies of John Donne, Sir Henry Wotton, Richard Hooker and George Herbert. At 85 he buckled down to work and

produced a life of Bishop Robert Sanderson. On his birthday in 1683 he began writing his will, "In the ninetyeth yeare of my age and in perfect memory . . ." Four months later he died at his daughter's home and was buried in Winchester Cathedral.

When Dr. Preston Bradley suggested Walton's name for the national sportsman's organization being formed in 1922, the logic was indisputable and what began in Chicago as the Izaak Walton Club with 54 members has become the Izaak Walton League of America, with state divisions and chapters, a veritable network of active conservation groups all over the nation.

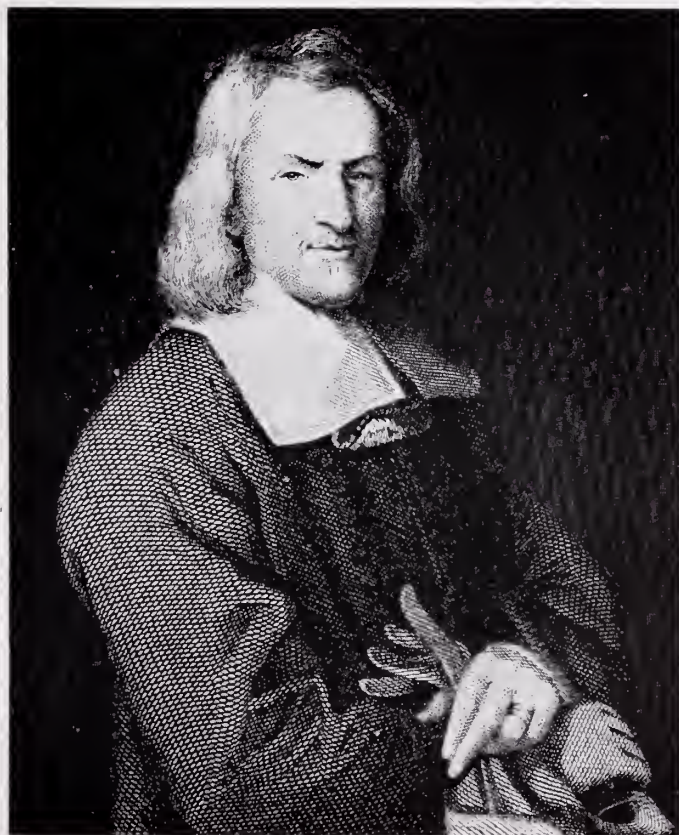
The crucial meeting in Chicago on January 14, 1922 had been preceded by smaller local group meetings such as that held in the office of Colonel Dan B. Starkey, editor of *Outdoor Recreation Magazine*. Finally 54 anxious sportsmen met in the Chicago Athletic Club to discuss a disturbing question: "What shall we do to save our fishing?" Will H. Dilg stated the challenge facing sportsmen:

"We all know that if the fishermen of this country were organized that many things would be done which *must* be done, if there is going to be any fishing to speak of, not only for ourselves, but also for the boys who are to follow us. Not only will continued non-fish and non-game preservation mean no sport for the youngsters of tomorrow, but eventually it will mean no worn trails, no glowing campfires, no balsam piled couches under the starry heavens and as Stevenson has it, 'no one knows the stars who has not slept under them.'"

The Honorable Guy Guernsey proposed incorporation under the state laws of Illinois and toward that goal each of the original 54 members attached a dollar bill to his personal card. So began the Izaak Walton League of America.

In Virginia the first chapter was started in Richmond, but lapsed. However, when it was reorganized in that city in 1939, it was by courtesy given the title of Virginia Chapter Number One. The first president was Winston Montague and the first secretary was Edward T. Ryland, but he served briefly and was succeeded by John H. Gwathmey, current rod and gun editor of the *Times-Dispatch*, who continued in the office for nine years. Several years later the Virginia Division was organized, with Ross H. Walker as its first head. Mrs. Walker has recently become the first president of the newly formed women's chapter of the League. Present officers of the Virginia Division are C. I. Van Cleve, of Lynchburg, president; H. C. Hubbard, of Lynchburg, secretary; E. L. Guille, of Norfolk, treasurer; Robert Lee, of Leesburg, and William H. West, Jr., of Winchester, who are first and second vice presidents respectively. Today there are 25 chapters, with about 4000 members, carrying on the conservation principles of the League in the state, cooperating closely with the Commission of Game and Inland Fisheries, and keeping the name of Izaak Walton alive in behalf of the outdoor world he loved so well and wisely.

Portrait of Izaak Walton, engraved by H. Robinson from the original by Housman in the National Gallery.





Field Force Notes

Atlantic Flyway Waterfowl Council Meeting in Richmond

Representatives of 17 Atlantic Flyway States, embracing those from Maine to Florida, met at the Hotel John Marshall January 24 and 25 to discuss ways and means of implementing waterfowl restoration work in the coastal states.

One of the highlights of the meeting was the presentation of the Charles Banks Belt Award to the New York State Conservation Department in recognition of the services of Robert A. Wells, former secretary of the Department, and his associates for the greatest contribution to waterfowl restoration in the Atlantic Flyway in 1954. They initiated a widely influential program of waterfowl management which has had beneficial effects upon the resources of the Atlantic Flyway.

Presentation in behalf of the Council was made by Clyde P. Patton, chairman of the Atlantic Flyway Council and director of the North Carolina Resources Commission. Members of the Award Committee were Robert Cushman Murphy, S. Dillon Ripley, L. G. McNamara, Roger Seamans, E. B. Chamberlain, Jr.



Mr. Clyde P. Patton (right) presents the Charles Banks Belt Award to Mr. Robert A. Wells.

The Atlantic Flyway Council was organized several years ago to help promote a broader waterfowl restoration program among the Atlantic

coastal states and to help draw recommendations on waterfowl regulations.

The two-day conference was well represented by administrators and biologists of the member states concerned, as well as the U. S. Fish and Wildlife Service.

Two-Headed Chickadee and a Freak Pheasant

Dr. Henry S. Mosby, of the Department of Biology at Virginia Polytechnic Institute, sends us two interesting tales, both tall but true, including the photograph of a two-headed black-capped chickadee found by a young boy in Pulaski County. Examination



This looks like trick photography, but it is an actual photo of a two-headed chickadee.

showed the bird to have been apparently in good health and condition. The specimen was turned over to Mrs. Hathaway, of the Biology Department in Pulaski, who forwarded it to the Virginia Cooperative Wildlife Research Unit in Blacksburg.

Dr. Mosby's other report is from the Hof Game Farm of Vienna, Virginia, and about a ringnecked pheasant that layed eggs in the spring of 1954 but came into male plumage when it moulted in the fall of 1954. The skin of the bird is in the collec-

tion of the Wildlife Research Unit. Since then, Dr. Mosby says he has heard of two similar instances.

"The biology of the matter appears to be something like this," writes Dr. Mosby. "The ovaries atrophy or are injured in some manner and do not produce an adequate supply of female sex hormones. In the absence of this hormone, the plumage goes over to the male coloration. However, it is comparatively rare that all male secondary sex characteristics appear in such individuals.

Careful Shooting Pays Dividends

The first shot at any game animal is the important one. A well-placed shot not only gives the hunter a lot of satisfaction, but it can also reduce the shamefully high crippling loss that is the result of poor marksmanship.

Mr. R. J. Lester and his friend, Jack Clayton, of Ballsville, Virginia, were camping and hunting in Augusta County during the last hunting season. On the morning of Novem-



One-shot kills pay dividends for these Virginia hunters.

ber 15, Lester shot and killed a 300-pound black bear with one shot. An hour and a half later, within 100 yards of the same spot, Lester again used one shot to bag a 6-point buck deer. The next morning Clayton killed an 8-point buck with one shot.



Commission's Fish Booklet Off the Press

Freshwater Fishing and Fishlife in Virginia, has been published and is now available at 25c a copy. The 104-page booklet has chapters on inland game fish, non-game fish, anadromous fish, hatcheries and restocking, management and research, pond construction, sport fishing, preparation and cooking of fish, questions and answers on fishlife, a bibliography about fish and fishing, and a list of the public fishing waters of Virginia.

There are twelve color fish plates in addition to the generous number of black and white illustrations. The booklet should prove very useful to sportsmen and conservation educators alike as a compact and comprehensive reference.

Plant Poisoning of Livestock

Virginia stockmen and dairymen lose stock and suffer setbacks in production every year because their animals eat poisonous or unwholesome plants. Says Professor A. B. Massey, V.P.I. botanist:

"Plant poisoning is localized, sporadic and seasonal. Trouble comes more frequently in winter and early spring, when grass is scarce. In the winter the evergreen shrubs and some herbaceous evergreens are likely to be browsed."

The most dangerous native evergreen shrubs in Virginia are mountain laurel, wicky, and the evergreen rhododendrons. . . . As laurel is one of the most attractive native flowering shrubs, don't destroy it, but fence stock away from it when grass is scarce." Rhododendron is less palatable, hence causes less trouble.

Box and shrubby yews also have poison in leaves and stems, but are seldom pasture problems. However, if you see caper's purge or sassy jack

coming up in your sheep pasture, pull it up says Massey. It has narrow, pointed, dark green leaves, with a white line running down the center.

Ask your county agent for a free copy of Professor Massey's recently published booklet on poisonous plants in Virginia and how to control them. It is V. P. I. Bulletin 222.



"Ham" Brown Honored By Sertoma Club

J. Hammond Brown, president of the Outdoor Writers Association of America and outdoors editor of the *Baltimore News-Post*, was honored by the Sertoma Club of Washington, D. C. in a special "Conservation Day" program November 23rd.

The club's annual "American Way" award was presented to the veteran OWAA leader by Club President Ed Place who said:

"America's future as a land of plenty depends on prudent conservation of our Nation's wildlife and natural resources. Conservation is therefore an important part of our Club's American Way Program. Hammond Brown is a great American because of his life-long devotion to the cause of conservation."

Goshen Pass Becomes State Forest Preserve

General John S. Letcher, of Lexington, is credited with leadership of the successful movement to save Goshen Pass from being logged off by a lumber company last year. After rallying public and private support, a 600-acre tract on the northeast slope of the ruggedly beautiful pass in Rockbridge County was purchased for \$22,500, of which \$5,000 was appropriated by the last General Assembly and the remaining \$17,500 contributed by the Perry Foundation of Charlottesville.

The property was recently accepted for Virginia as a State Forest Preserve by Raymond V. Long, director of the State Department of Conservation and Development. A plaque, erected by the Department, was unveiled in tribute to Hunter Perry, Lillian Perry Edwards and the Perry Foundation of Charlottesville.

Rabies Can Be Controlled

Dr. S. L. Kalison, veterinarian at VPI Agricultural Extension Service, says the three-point rabies control program of vaccination of at least 70 percent of the dog population, quarantine of all dogs and control of wildlife, is feasible and has been known for over 70 years, but has failed in many places because of human factors.

Resistance of dog owners and hunt clubs has hampered quarantine enforcement. Licensing laws have often proved too weak for effective vaccination programs. Intensive control of wildlife populations has been most difficult, but Kalison said that too can be accomplished with the aid of public interest and support.

If the control program is enforced, it does work.

Blue Geese Design for New Duck Stamp

Stanley Stearns, of Binghamton, New York, is the wildlife artist who created the winning design for the sixth annual "duck stamp" competition. His black and white tempera painting of three blue geese in flight over a cattail marsh has been selected for the 1955-56 Migratory Bird Hunting Stamp. Director of the Fish and Wildlife Service John L. Farley has announced.

This will be the 22nd stamp issued in the series. Before 1919, outstanding artists were invited to submit entries. Then the competition was opened to the public, so this is the sixth such contest.



Artist Stanley Stearns' blue geese design tops competition for the 1955-56 Migratory Bird Hunting Stamp.

Edward J. Bierly, of Arlington, Virginia, was the runner-up in the national competition with his design of old squaw ducks. Bierly painted the wood ducks used on the December four-color cover of *VIRGINIA WILDLIFE*. He was one of two Virginia artists to enter the contest. Harry C. Adamson, of Lafayette, California, was third place winner. That state incidentally, had five entries, making it second to Illinois which topped the list with eight contestants. A total of 93 designs was submitted by 66 artists.

The new duck stamp goes on sale July 1st and expires the following June 30. Nearly twice the size of a special delivery stamp, it sells for \$2. Everyone over 16 who hunts migratory waterfowl is required to have one of the stamps in his possession, in addition to his state hunting license. Duck stamp revenues are used to supplement other funds appropriated to the Fish and Wildlife Service for the purchase, development, administration and maintenance of waterfowl refuges throughout the country.

Mosby Joins V.P.I. Staff and Lindzey Heads Wildlife Unit

Dr. Henry S. Mosby, Unit Leader of the Virginia Cooperative Wildlife Research Unit since July 1948, has resigned to join the staff of Virginia Polytechnic Institute as professor of wildlife management and to work in connection with the Agricultural Experiment Station at Blacksburg. Dr. Mosby was with the Game Commission for ten years before his appointment to the research unit of the United States Fish and Wildlife Service.

Dr. James S. Lindzey, formerly a biologist with the United States Bureau of Indian Affairs, took over as leader of the Virginia Cooperative Wildlife Research Unit on January 1, 1955. After graduation from Pennsylvania State University in the field of forestry and wildlife, he was with the Pennsylvania Game Commission a year, then did his master of science work at Oregon State and was connected with the Oregon Game Commission. After another two years with the West Virginia Conservation Commission, he went to Oklahoma where he was with the Wildlife Research Unit, taught college biology and worked with the Game Commission.

IWLA Women's Chapter Organized in Virginia

Paul O. Peters, past president of the Izaak Walton League of America, sends us the following information from the recently organized state women's chapter of the Izaak Walton League:

Some thirty odd years ago in a contest sponsored by *Outdoor Life*, Mr. L. L. Foreman of Santa Fe, New Mexico, submitted what has since become America's conservation creed. Mr. Foreman wrote—

"I give my pledge as an American to defend from waste, the natural resources of my country—its soils and minerals, its forests, waters, and wildlife."

In the years which have elapsed since the conservation creed was adopted, organizations have grown up dedicated to the proposition that conservation is every man's business. To-

day, alert conservationists have come to the full realization that conservation is every woman's business, too.

The Izaak Walton League of America, long recognized as a leader in the fight to preserve and protect our soils, our woods, our waters, and our wildlife, welcomed women many years ago. Today charters have been issued to 54 chapters in the League composed entirely of women. The 55th charter was issued in December to the Mary Washington-Old Dominion Chapter in Virginia. Besides being the first all-women's chapter in Virginia, the Mary Washington-Old Dominion Charter was issued as the nucleus for a state-wide division of the Izaak Walton League, in fact the first women's division to be organized in the U. S.



Mrs. Ross H. Walker, president of Virginia's first all-woman Izaak Walton League chapter.

The president of the Virginia women's organization is Mrs. Ross H. Walker, ardent sports-woman in her own right, and the wife of Ross H. Walker, first president of the Virginia Division. With con-

servation now an admitted necessity, the Izaak Walton League in Virginia, besides acting as co-sponsor with the Commission of Game and Inland Fisheries of the state-wide conservation essay contest, held annually for pupils in the public and private schools of Virginia, now moves to broaden the base of operations by trying to introduce conservation directly into the homes of the state and by way of the mothers to build up a compact division of the League.

Interested ladies who might wish to join the state-wide chapter can write to Mrs. Ross H. Walker, State President, R. F. D. 1, Richmond, Virginia, or Paul O. Peters, 5825 N. 4 Mile Run Drive, Arlington, Virginia.

Doe Deer With Antlers

Harry King, conservation officer from Disputanta, while hunting at "Brandon", killed a doe deer with four-inch antlers on one side. Kit Shaffer, state game technician, aged the deer at six years.

Wildlife Questions and Answers

Ques.: If there are any changes in the hunting law regulations for 1955-56, when will they go into effect?

Ans.: At its meeting on March 11, 1955, the Commission will hear proposals for changes in the hunting laws. The proposals are advertised in the newspapers of the state to be finally acted upon at a meeting the date of which will be named in the advertisement. Any regulations adopted at this meeting, unless an emergency exists, cannot become effective until all the formalities required by law have been complied with, but the Commission's aim is to get these regulations before the public as soon as possible, certainly well before the hunting season opens.

Ques.: Can you tell me who made the remark that if men wore feathers and wings, only a very few of them would be clever enough to be crows?

Ans.: The Reverend Henry Ward Beecher was the author of that famous comment on crows.

Ques.: Are there insect-eating mammals as well as insect-eating birds in Virginia?

Ans.: Yes, the insectivores are a large and varied group of small mammals in the state, which includes bats, shrews and moles. They belong on the list of beneficial mammals since they do much good and relatively little harm.

Ques.: Is a permit required to raise domestic rabbits, chinchillas or guinea pigs?

Ans.: No permit from the Game Commission is necessary, but it would be well to check up on possible municipal or town ordinances where you live.

Ques.: What determines whether or not a stream is put on the approved trout stocking list of the Commission?

Ans.: Before any stream can be put on the approved trout stocking list, an investigation prior to the year's stocking is required to determine the species that would be suitable in line with sound biological principles and the waters must be open to public fishing. If an investigation is requested after the trout allocation for the year has been made up, no additional streams can be added until the following year.

Ques.: Are there any mammals besides bats which can fly?

Ans.: No, bats are the only mammals which have fully conquered the air. In fact, they are the only living animals with backbones, besides the birds, which have the power of true flight. The flying lemur, the flying phalanger, the flying squirrel and the flying fish are all expert gliders, but are not capable of true flight.

Ques.: Please give me some information about the state's wild turkey farm.

Ans.: The Commission maintains a game farm in Cumberland County for the propagation of wild turkeys and quail. Production at this farm approximates 3000 turkeys annually and they are distributed throughout the state principally in those counties which have suitable wild turkey habitat but insufficient or no brood stock.



"So you're an early bird—well, I'll soon be a late worm."

Ques.: Does the federal government maintain any fish hatcheries in Virginia?

Ans.: Yes. The United States Department of the Interior, Fish and Wildlife Service, has a large hatchery near Wytheville for raising bass, sunfish, brook and rainbow trout, a trout rearing station near New Castle, and a hatchery for largemouth bass and sunfish in Charles City County.

Ques.: Someone has told me that the buds and flowers of the redbud are edible. Can you confirm the truth of this assertion?

Ans.: *Edible Wild Plants of Eastern North America* by Merritt Lyndon Fernald and Alfred Charles Kinsey lists the flowers and buds of the redbud among those which may be pickled like capers and used the same way. Others on the list are the buds of marsh marigold, green barberries, the buds and young pods of broom, the fruits of ash and the buds of elder.

Ques.: Is it legal to use bow and arrow on rough fish anywhere in the state of Virginia?

Ans.: The use of the bow and arrow on rough fish is illegal in the public inland waters of the state except in Silver Lake at Dayton where it is lawful to gig and to take by bow and arrow carp only from 7 A.M. to 10 P.M., week days only, May 10-August 10, inclusive.

Ques.: Can you tell me how Baltimore orioles got that name?

Ans.: It is said that the name was bestowed on the bright orange and black birds by the famed naturalist, Linnaeus, because those were the family colors of Lord Baltimore. The bird is sometimes known also as fire-hangbird and golden robin.

Ques.: Are there any birds which can move the upper part of their bills?

Ans.: Yes, the woodcock has a bill which is not only very flexible, but the upper bill is hinged and movable. The beak can be used like a pair of tweezers to grasp food below the surface of the ground.

Ques.: Can you tell me what different sports originally produced the different types of hunting dogs we have today?

Ans.: Hunting produced the running and tracking hound. The springing Spaniel of the falconer and the setting dogs of the fowler have evolved into the field dogs of today.

Ques.: When were birds first banded?

Ans.: It is not known exactly when the first banding took place, but a banded heron was recorded in Germany as early as 1710.

Ques.: What is the size limit of a dip net?

Ans.: A dip net must not be more than six feet square.

The SUNFISH FAMILY

•BLACK BASS ARE FAMOUS MEMBERS•



BLACK CRAPPIE



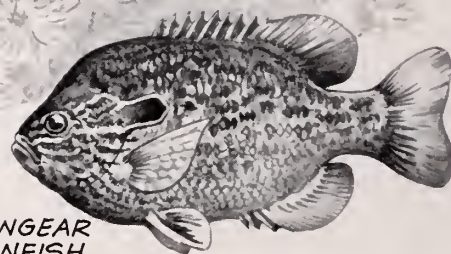
WHITE CRAPPIE



BLUEGILL

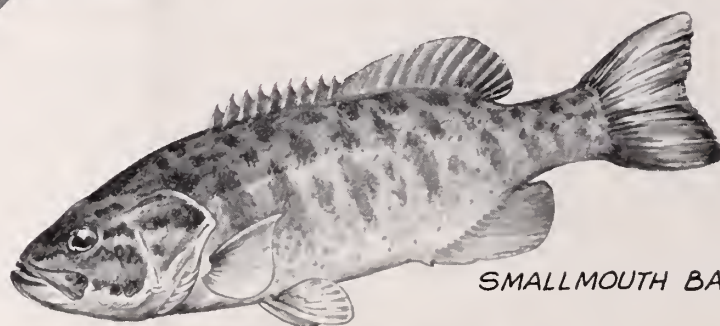


PUMPKINSEED



LONGEAR SUNFISH

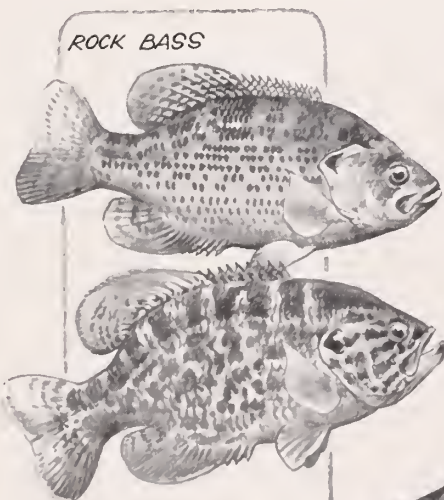
MALES OF THIS GROUP
HOLLOW OUT NESTS IN SAND
OR GRAVEL ~ INDUCE FEMALES
TO SPAWN ~ THEN STAND
GUARD UNTIL THE EGGS HATCH



SMALLMOUTH BASS

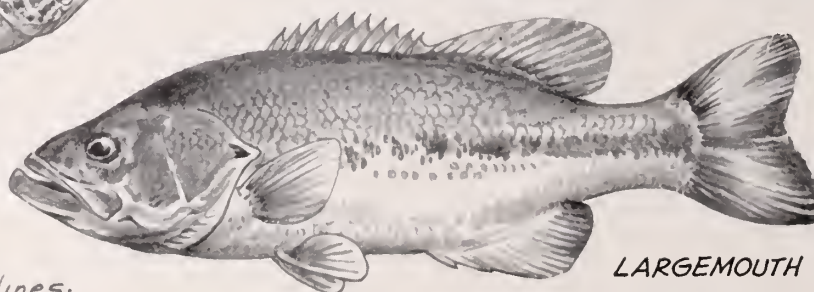


KENTUCKY OR SPOTTED BASS



ROCK BASS

WARMOUTH BASS



LARGEMOUTH BASS

Bob Hines.